

19. Explain the generation of dichlorocarbenes and Benzoin condensation using phase transfer catalyst.

20. Compare and contrast the conventional synthesis and green synthesis of methyl methacrylate.

APRIL/MAY 2023

DECH24A/GECH24A — GREEN CHEMISTRY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Mention any two uses of protecting groups.
2. Explain how the choice of solvents impacts green synthesis.
3. Give the reasons behind need to carryout organic reactions in water.
4. List any two merits of microwave assisted synthesis.
5. Give one example of selective chemical reactions on one aldehyde group of symmetric aldehydes.
6. Mention the applications of polymer supported AlCl_3 .
7. What are the different types reactions can be carried out by using PTC?



8. Write the Williamson synthesis using phase transfer catalyst.

9. Define Tanning.

10. What do you meant by Eco friendly pesticides? Give an example.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write short note on "designing the safer chemicals".

Or

(b) Comment on the choice of catalyst in green synthesis.

12. (a) Explain the phenomenon of cavitation.

Or

(b) Explain the role of microwave assisted reactions in water with two examples.

13. (a) What are ionic liquids? Classify them. Give any one synthesis of ionic liquid.

Or

(b) Discuss the choice materials and reagents in green synthesis.

14. (a) What are phase transfer catalyst? Describe their types, advantages and applications in synthesis of nitriles from alkyl and aryl halides.

Or

(b) Discuss the Michael reaction using phase transfer catalyst.

15. (a) Write a short note on Fat liquoring.

Or

(b) Outline the advantages of using ziegler natta catalyst.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Write twelve principles of green chemistry. Briefly explain any two principles with suitable examples.

17. Define sonochemical reactions. Explain with one example each for different types of sonochemical reactions.

18. (a) Explain the role of sulfonazide polymer for the application of diazo transfer reaction.

(b) Illustrate about polymer supported photo sensitizers.